

L 15376-65 EWT(m) DIAAP/SSD/AFWL/RAEM(c)/ESI(t)

ACCESSION NR: AP4043630

S/0048/64/028/010/1573/1577 B

AUTHOR: Avdeychkov, V.V.; Bogatin, V.I.; Lozhkin, O.V.; Perfilov, N.A.; Yakovlev, Yu.P.

TITLE: Many-nucleon clusters in the peripheral nuclear region evinced in reactions with fast particles /Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-22 Feb 1964/

SOURCE: AN SSSR, Izv. Seriya fizicheskaya, v.28, no.10, 1964, 1573-1577

TOPIC TAGS: nuclear physics, nucleon clusters, carbon, aluminum, vanadium

ABSTRACT: The energy and angular distributions of Li^8 nuclei ejected from C^{12} , Al^{27} and V^{51} by 660 MeV protons were investigated. Three of the authors have described the experimental technique elsewhere (Doklady* AN SSSR 151,825,1963). The energy distribution was found to depend on the angle of expulsion. At low angles all the spectra have high energy tails corresponding to momenta of the order of the total momentum of the incident proton. The energy distributions of Li^8 from C^{12} at 20° and 90° are very similar to the corresponding distributions of residual Li^8 nuclei from the disintegration of Be^9 by high energy protons, and it is concluded

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that the ejected Li^8 nucleus is formed by direct reaction of the incident proton with a Be^9 cluster within the C^{12} nucleus. The spectrum of Li^8 from Al^{27} was calculated on the assumption that it is formed from a He^9 cluster and is subject to absorption by the residual nucleus. Good agreement with experiment was found. The spectrum of Li^8 from V^{51} was calculated on the assumption that Li^8 is formed only during the evaporation stage of the reaction. Fair agreement with experiment was obtained for large expulsion angles, but the observed yield at low angles was considerably greater than the calculated. It is concluded that direct reactions with clusters in the peripheral region make a significant contribution in this case also. Orig.art.has: 3 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NR. REF SOV: 003

OTHER: 000

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9(2)

SOV/107-58-12-33/55

AUTHORS:

Danilenko, A., and Avdeyenko, A.

TITLE:

A Phase Meter on Three Diodes (Fazometr
na trëkh diodakh)

PERIODICAL:

Radio, 1958, Nr 12, pp 28-29 and 33 (USSR)

ABSTRACT:

The article shows how a simple phase meter circuit on three diodes can be used for measuring the phase shift angle of two sinusoidal voltages. Calculation of the phase shift angles is made directly on a needle indicator, the scale of the instrument remains linear in a wide frequency band, it is accurate and the amplitudes of the input voltages do not have to be identical. A simplified circuit diagram of the instrument is given together with time diagrams explaining the physical processes. The calibration curve is also shown. As the Phase meter works in a two-way limiting regime, it is

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A Phase Meter on Three Diodes

most convenient to analyse its working with the use of the statistical characteristics of limiting, i.e., the dependence of the direct current flowing through the indicating instrument on the magnitude of the direct voltage applied to one of the inputs of the phase meter, passing through a separation condenser (points 1,2 or 3,4): to reduce errors in the instrument it is essential for the two-way limiting of the input voltage to be symmetrical; this is done by observing the equality of the absolute values U' and U'' . To reduce the effect of spurious capacitance at high frequencies (above 150 mc) the resistance R_2 is inserted between points "a" and "b": this reduces the time constant of the charge and discharge circuit of the spurious capacitance. The graph of the dependance

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A Phase Meter on Three Diodes

of the amplitude of R_2 on the frequency is shown as well as that of R_{vkh} on the amplitude of R_2 . It is then shown how to determine elements of the circuit and the minimum amplitude of the input voltage if an indicating instrument is already present. Finally, the article shows the practical circuit of a phase meter based on semi-conductor diodes and having cathode repeaters. There are 2 circuit diagrams and 5 graphs.

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24(4), 24(6)

SOV/51-6-4-19/29

AUTHORS: Shklyarevskiy, I.N., Avdeyenko, A.A. and Padalka, V.G.

TITLE: Measurement of the Optical Constants of Antimony in the Infrared Spectral Region at Temperatures of 290 and 110°K. (Izmereniye opticheskikh postoyannykh sur'my v infrakrasnoy oblasti spektra pri temperature 290 i 110°K)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 4, pp 528-532 (USSR)

ABSTRACT: The optical constants of antimony were measured at the wavelengths of 1-12 μ and at temperatures of 290 and 110°K, using the technique described by Avery (Ref 3) which is essentially a measurement of

$$\rho^2 = R_p/R_s,$$

at two angles of incidence φ (R_p and R_s are the coefficients of reflection for light polarized in the plane of incidence and at right angles to it). Avery obtained the refractive (μ) and absorption ($\mu\lambda$) indices from a system of two equations

$$\rho_1^2 = f_1(\mu, \mu\lambda, \varphi_1) \text{ and } \rho_2^2 = f_2(\mu, \mu\lambda, \varphi_2).$$

This method of calculation is laborious and the authors used the method of intersecting circles (Ref 4). The procedure described here is applicable to the optical constants of metals for which $\mu \approx \mu\lambda$; the optical constants of antimony satisfy this condition. The

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SOV/51-6-4-19/29

Measurement of the Optical Constants of Antimony in the Infrared Spectral Region at Temperatures of 290 and 110°K

apparatus used for measurement of the optical constants of metals in the infrared region was described earlier (Ref 1). The apparatus used in studies of antimony differed from that described earlier (Ref 1) in one particular: instead of two samples on the goniometer table a cryostat was used with one sample in it. Fig 1 shows the external view of the apparatus. The following details are marked in Fig 1: the slit (S) of a monochromator ZMR-2, a polarizer P and an analyser A, the cryostat K and a receiver B (a photoresistor or a bolometer). The polarizer and analyser consisted each of a pile of selenium plates which had to be replaced every 3-4 months. Details of the cryostat are shown schematically in Fig 2. Measurements were made at 290 and 110°K (using liquid oxygen in the jacket of the cryostat). The apparatus had to be adjusted very carefully in order to avoid serious errors: first the selenium piles were adjusted and then the sample. Measurements were made on four samples; the values of the optical constants of the individual sample differed by no more than 5-8%. Control measurements, carried out using other methods (Ref 5), gave similar results. Fig 3 shows the refractive (curves a) and absorption (curves δ) indices of antimony as a function of wavelength between 1 and 12 μ at temperatures of 290 (curves 1a, 1 δ) and 110°K

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Measurements of the Optical Constants of Antimony in the Infrared Spectral Region at Temperatures of 290 and 110°K

(curves 2a, 2b). The same figure contains the values of μ and $\mu\chi$ of antimony, obtained at room temperature and 2.45 μ wavelength, by Domanskiy and Noskov (Ref 6); these are shown as points 3a and 3b. From the mean values of the optical constants the authors constructed the wavelength dependence of the real $[\mu^2 - (\mu\chi)^2]$ and imaginary $[2\mu(\mu\chi)]$ components of complex permittivity; this is shown in Fig 4. Fig 5 shows the wavelength dependence of the absorption coefficient A calculated from

$$A = 4\mu/[(\mu + 1)^2 + (\mu\chi)^2].$$

The $A = f(\lambda)$ curves exhibit clear maxima which are due to interband transitions. From the positions of the maxima on the A curves the interband energy gap was calculated. It was found to be 0.18 eV at room temperature and 0.15 eV at 110°K. This compares well with the

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Measurements of the Optical Constants of Antimony in the Infrared Spectral Region at
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values of 0.05 to 0.20 eV at room temperature reported by Smith (Ref 7).
Acknowledgment is made to K.D. Sinel'nikov for his advice. There
are 5 figures and 7 references, 5 of which are Soviet and 2 English.

SUBMITTED: May 19, 1958

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24(4)

SOV/51-6-5-19/34

AUTHORS: Shklyarevskiy, I.N. and Avdeyenko, A.A.

TITLE: Reduction of Reflection of Metallic Coatings (Prosvetleniye metallicheskih pokrytiy)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 5, pp 678-684 (USSR)

ABSTRACT: It is very desirable to reduce reflection at the glass-metal boundary in the Fabry-Perot interferometer plates, keeping the reflectivity at the air-metal boundary unchanged. This would improve transmission of the plates and consequently increase their speed, contrast and resolving power. Such a reduction can be achieved by evaporating a thin film (100-150 Å) of silver on a glass plate heated to 300-400°C and then depositing the main aluminium layer. Transmission of semi-transparent aluminium coatings on glass pre-treated in this way is increased by a factor of 2 to 4 in the wavelength region 600-1100 mμ (Fig 5). Transmission of semi-transparent coatings of silver can be improved by a factor of 1.5 to 2.8 when these coatings are deposited on glass plates previously covered with 100-150 Å silver films (deposited at 300-400°C) on top of which very thin aluminium layers were evaporated (Fig 7). Reduction of reflection of interferometer plates produces a reversal of interference lines (Fig 8). The intensities of the reverse lines are higher than the intensities of lines reversed by

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Reduction of Reflection of Metallic Coatings

SOV/51-6-5-19/34

cutting out the "zero-order" lines. This makes it possible to use reflection interferometers with a second opaque coating in studies of hyperfine structure. One section of the paper deals with the optical properties of thin silver films deposited on glass plates heated to 100, 200, 300 and 400°C. The optical constants of such films were found to be similar to the constants recorded earlier for thick silver layers deposited on hot substrates. These films are granular in structure as shown in Fig 2. Acknowledgment is made to K.D. Sinel'nikov for his advice. There are 8 figures and 13 references, 8 of which are Soviet, 3 German, 1 English and 1 translation from English into Russian.

SUBMITTED: November 10, 1958

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AVDEYENKO, A.A.; AKOPOV, V.M.; KRAMARENKO, N.L.; NABOYKIN, Yu.V.;
SHKLYAREVSKIY, I.N.

Measurement of high reflection coefficients. Opt. i spektr.
16 no. 4:712-713 Ap '64. (MIRA 17:5)

AID Nr. 983-7 5 June

TRIPLET LEVELS IN MOLECULAR CRYSTALS (USSR)

Naboykin, Yu. V., S. V. Sidorov, and A. A. Avdeyenko. IN: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 4, Apr 1963, 527-529.
S/048/63/017/004/015/026

In connection with the problem of triplet luminescence of organic molecules, of particular importance in its application to quantum generators, an attempt has been made to produce this effect artificially by doping techniques. Naphthalene crystals doped with a small amount (0.05-0.5%) of benzophenone were found to display a linear singlet-triplet absorption spectrum somewhat similar to that of benzophenone. The congruence of the linear spectra of naphthalene and benzophenone indicates that their luminescence is due to local centers. Attempts to discover triplet energy states in crystals of triphenylene, diphenyloxide, acenaphthene, and certain compounds of benzophenone were unsuccessful; naphthalene crystals doped with polar molecules of nitrogen compounds, quinone, and oxygen also gave negative results. To check the validity of the triplet exciton,

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AID Nr. 983-7 5 June

TRIplet LEVELS IN MOLECULAR CRYSTALS [Cont'd]

S/048/63/027/004/015/026

hypothesis, single crystals of pure naphthalene were kept for more than two weeks in a chamber filled with oxygen at a pressure of 150 atm, and their absorption spectra were compared with the same spectra in argon. The results indicated the existence of singlet-triplet absorptions induced by oxygen. Many solutions of aromatic substances displaying easily observable triplet absorptions lose this property after crystallization; however, the nature of this phenomenon is still not understood.

[VG]

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ACCESSION NR: AP4032879

S/0051/64/016/004/0712/0713

AUTHOR: Avdeyenko, A.A.; Akopov, V.M.; Kramarenko, N.L.; Naboykin, Yu.V.; Shklyarevskiy, I.N.

TITLE: Concerning measurement of high reflection coefficients

SOURCE: Optika i spektroskopiya, v.16, no.4, 1984, 712-713

TOPIC TAGS: reflection coefficient, reflection coefficient measurement, mirror, silver mirror

ABSTRACT: In connection with designing interference instruments (for example, Fabry-Perot etalons) and lasers it is essential to know the reflection coefficient of the mirror components, and the higher the coefficient the more important is accuracy of the measurement result. In the present paper there is proposed a procedure and setup, based on multiple reflection, designed for accurate measurement of the reflection coefficients of mirrors with a high coefficient. The requisite evaluation formulas for two-fold and eight-fold reflection (the latter was employed by the authors) are adduced. A diagram of the setup is shown; it consists essentially of a collimated source, a beam splitting plate, and an appropriate photocell with a

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ACCESSION NR: AP4032879

frosted glass window. The setup and procedure were used to determine the reflection coefficients of three silver mirrors, prepared by simultaneous vacuum evaporation, for wavelengths of 550, 600 and 650 mμ; the estimated measurement accuracy is within $\pm 0.4\%$. Orig. art.has: 3 formulas, 2 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 26Jul63

SUB CODE: (P)

NR REF SOV: 001

ENCL: 00

OTHER: 003

Card 2/2

ACCESSION NR: AP4043384

S/0181/64/006/008/2522/2524

AUTHORS: Naboykin, Yu. V.; Avdeyenko, A. A.

TITLE: Effect of "detection" and photoconductivity activation energy in pyrene single crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 8, 1964, 2522-2524

TOPIC TAGS: organic material, photoconductivity, activation energy, single crystal, hole conduction, electron conduction

ABSTRACT: The scheme proposed by A. N. Terenin (Zhurn. VKhO, v. 5, 498, 1960) to explain the photoelectric properties of organic photoconductors with monopolar photoconductivity, is extended by the authors to photoconductivity with carriers of both polarities. It is concluded from the published experimental data that the first singlet excited level is not a conduction level, for practically no photocurrent is observed upon excitation in the intrinsic region at

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low temperatures, although the mobilities of the holes and of the electrons increases. It is likewise concluded that the hole conduction level cannot be related with the ground state of the molecules, for the same considerations. It is suggested that excitation of holes in the electrons at the corresponding conduction levels must incorporate as an intermediate state hole and electron traps. The thermal depletion of these traps causes the temperature dependence of the photocurrent. Measurements of the activation energy of photoconductivity in single crystals of zone-purified pyrene illuminated on the negative and positive electrode sides indicate that the activation energy of the hole photocurrent exceeds the activation energy of the electron photocurrent. This means that the ratio of the currents produced by illuminating the positive and negative electrodes (the so-called detection effect) is determined in organic crystals not by the mobility ratio alone, as previously assumed, but principally by the ratio of the activation energies. The results confirm that the carrier production is essen-

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tially a bimolecular process, as recently demonstrated by M. Kleinerman et al. (J. Chem. Phys. v. 37, 1825, 1962). They also demonstrate that a direct optical transition into the conducting state is forbidden. Orig. art. has: 2 figures and 1 formula.

ASSOCIATION: Fiziko-tekhnicheskii institut nizkikh temperatur, AN UkrSSR, Khar'kov (Physicotechnical Institute of Low Temperatures, AN UkrSSR)

SUBMITTED: 24Feb64

ENCL: 00

SUB CODE: SS, OP

NR REF SOV: 003

OTHER: 011

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L 11839-65 ENT(1)/ENG(1)/ENT(m)/ENT(j)/ENG(t) Pc-1/Pz-6 IJP(c) AFMD(t)
AT/RM

ACCESSION NR: AP4048434

S/0181/64/006/011/3474/3475

AUTHORS: Avdeyenko, A. A.; Naboykin, Yu. V.; Sheina, S. P.

TITLE: Effect of external field on the spectrum of the inhomogeneous photoconductivity in pyrene single crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 11, 1964, 3474-3475

TOPIC TAGS: photoconductivity measurement, carrier recombination, carrier lifetime

ABSTRACT: To trace the influence of an external field on the spectral curve of the photocurrent of a layer-type photocell (in which the illumination passes through a transparent electrode along the applied field), the authors used single-crystal pyrene purified by sublimation, a DMR-4 double monochromator, a DKSSh-200 electronically stabilized xenon lamp, and a U1-2 electrometric amplifier. The results indicate that at low fields there is only weak separation of

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the charges and their recombination rate is high if their density in the generation region is high. The anticorrelation between the photoconductivity and absorption spectra in weak fields is attributed to the decrease in the carrier lifetime in the region of strong absorption. Favoring this conclusion is also the behavior of the spectral curve when the illumination is applied from the side of the negative electrode, where the field has a smaller effect, because the drift mobility of the electrons in pyrene is much smaller than the drift mobility of the holes. "The authors thank V. V. Yeremenko for a discussion." Orig. art. has: 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperature AN UkrSSR, Khar'kov (Physicotechnical Institute of Low Temperatures, AN UkrSSR)

SUBMITTED: 09Jun64

ENCL: 00

SUB CODE: SS, OP

NR REF SOV: 003

OTHER: 008

Cord 2/2

LIST AND INDEX TITLES		PACKAGES AND PROPERTY INDEX	
AVDEYENKO, A. I. <i>M</i> *Obtaining X-Ray Photographs with Very Short Exposure Times. V. A. Zhukerman and A. I. Avdeyenko (Zhur. Tekhn. Fiziki, 1962, 38, (4/5), 185-186).—[In Russian.] Methods of obtaining X-ray photographs with exposures lasting 10^{-8} to 10^{-9} sec. are reviewed. It is shown that by using an ordinary kromatron instead of an X-ray tube, it is possible to obtain X-ray photographs of simple objects using a standard X-ray set by exposures lasting a few microseconds.—N. A.			
ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION			
GROUPS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100		GROUPS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	

AVDEYENKO, A. I.

Phy.

Needle x-ray microprojector. M. Rovinski, V. O. Lyutitsan, and A. I. Avdeenko. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 20, 843-52(1950).—An x-ray shadow microscope is designed in which the electron beam is focused through a diaphragm on the electrolytically sharpened point of a metallic needle. The radius of the point is 0.1μ and the solid angle of the cone 10° . By using a Cu mesh of 0.05μ and 5μ Cu wire, a magnification of 100 and (with a photographic magnification) an over-all magnification of 600 times could be achieved. The size of the focal point on the anode is 0.6μ and the load $\sim 100 \text{ kw./sq.mm.}$

S. Pakswar

USSR / Human and Animal Morphology (Normal and Patho- S-2
logical). Methods and Apparatus.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78988.

Author : Rovinskiy, B. M., Lyuttsau, V. G., Avdeyenko, A. I.
Inst : Not given.
Title : On the Application of X-Ray Shadow Microscopy
in Biology.

Orig Pub: Biofizika, 1956, 1, No 2, 163-166.

Abstract: Description of an X-ray micro-projector construc-
ted by the author which provides a photograph
with an enlargement of 200 times. Examples of
of X-ray micro-projections are cited.

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AVDEYENKO, A.I. : LYUTTSAU, V.G., ROVINSKIY, B.M.

"Mi ture (sic) Point X-Ray Sources for Point Projection Microscopy
and Diffraction Examinations."

A paper presented at Second International Symposium on X-Ray Microscopy and
X-Ray Microanalysis Stockholm 13-18 Jun" '59/Soviet Interest in New Techniques for
Measuring Density Ultra Soft X-Rays in Outer Space.

SO: B 3,136,088 31 July '59

SOV/48-23-5-3/31

9(6)

AUTHORS:

Rovinskiy, B. M., Lyuttsau, V. G., Avdeyenko, A. I.

TITLE:

X-ray Shadow Microscopy (Rentgenovskaya tenevaya mikroskopiya)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959,
Vol 23, Nr 5, pp 545 - 551 (USSR)

ABSTRACT:

In the first part of the present paper the authors discuss the methods of preparing X-ray silhouettes. Four graphs serve as a basis (Fig 1). The first of the methods dealt with here is the "contact method", in which the X-ray film is in contact with the sample under investigation. The resolving power attains here a maximum of 1μ . The second method is the one introduced by Cosslett and Nixon, in which, as is known, an electron beam is focused by means of electromagnetic lenses onto the anode, and from which the X-rays then depart. The resolving power attains here 0.1 to 0.2μ . The third method is the one described by the authors, which consists essentially of a tapered anode as point source of the X-rays. A resolving power up to 0.6μ is attained therewith. The last method described goes under the name of camera obscura. Here, the X-ray light originating from an areal source enters

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X-ray Shadow Microscopy

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a chamber, containing sample and film, through a small stop. By this method the authors attained a resolving power below 1μ . In the years 1952 - 1953 the authors worked in the IMASH AS USSR on the development of X-ray shadow microscopes. It is pointed out that this type cannot cope with the resolving power offered by electron microscopes. A new model is described in the second part of this paper, complying with the third principle described above. A graphic section is shown and details are discussed. The maximum magnification made possible by this instrument, is 650fold; the negatives, however, may be magnified photographically up to 2000fold. The resolving power attains from 0.2 to 0.5μ . For an exemplification, two pictures of a net are shown, the first of which exhibits a 400fold magnification, and the second, by photographic methods, a 2000 fold magnification. The final part of the paper is devoted to the range of applicability of these microscopes; in this connection two pictures are shown depicting mineral samples, one of an insect preparation, two of histological preparations, and two pictures of metallic alloys. The conditions are specified under which each of

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them was taken; magnifications are in the range of 80fold to 800fold. There are 7 figures and 14 references, 7 of which are Soviet.

ASSOCIATION: Institut mashinovedeniya Akademii nauk SSSR (Institute of Machine Construction of the Academy of Sciences, USSR)

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AVDEYENKO, A.I.

Sharp-focussed X-ray tube with a round focus. Zav. lab. 28
no.9:1134-1135 '62. (MIRA 16:6)

(X rays—Equipment and supplies)

BESPALYY, N.P., kand.tekhn.nauk; Prinimal uchastiye: AVDEYENKO, G. Ye., student

Investigation of the accuracy of the functioning of the compensator
on the NSM level. Izv. vys. ucheb. zav.; for. zhur. no.9:64-67 '59.
(MIRA 14:6)

1. Donetskiiy industrial'nyy institut imeni N. S. Khrushcheva.
Rekomendovana kafedroy geodezii.
(Surveying instruments)

BEREBRENNIKOV, V.V.; BYKOV, V.V.; AVDEYENKO, I.T.

NZU-1 pump for slope drainage. Ukol' Ukr. 5 no,4:39 Ap '61.
(MIRA 14:4)

(Mine pumps)

AVDEYENKO, N. A., BORESKOV, G. K., SLIN'KO, M. G.

"Catalytic Activity of Metals in Relation to the Homomolecular Isotopic Exchange of Hydrogen,"

Problems Kinetics and Catalysis, v. 9, Isotopes in Catalysis, Moscow, Izd-vo AN SSSR, 1957, 442p.

Most of the papers in this collection were presented at the Conference on Isotopes in Catalysis which took place in Moscow, Mar 31- Apr 5, 1956.

AVDNYENKO, M.A.; BORESKOV, G.K.; SLIN'KO, M.G.

Catalytic activity of metals in respect to homomolecular isotopic
exchange of hydrogen. Probl. kin. i kat. 9:61-75 '57. (MIRA 11:3)
(Catalysis) (Radioactive tracers)

5.1190

1208, 2208, 1274

86379

S/020/60/133/006/030/031XX
B004/B067

AUTHORS:

~~Avdeyenko, H. A.~~ Boreskov, G. K., Corresponding Member of
the AS USSR, and Zhavoronkova, K. N.

TITLE:

Specific Catalytic Activity of Iron Films With Respect to
the Reaction of Isotopic Exchange in Molecular Hydrogen

PERIODICAL:

Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 6,
pp. 1354-1357

TEXT: The authors refer to published data according to which the catalytic and adsorptive properties of metal films differ from those of massive metals. In the present paper, they study the effect of sputtering and sintering conditions of iron films on their catalytic activity with respect to isotopic exchange in molecular hydrogen. The catalytic activity was measured statically in a vacuum chamber whose walls (before the sputtering of the iron film) were degassed at 500°C down to a pressure below 10^{-7} mm Hg. The films were condensed by heating lamellas of spectroscopically pure Hilger iron on the walls of the chamber whose

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Specific Catalytic Activity of Iron Films
With Respect to the Reaction of Isotopic
Exchange in Molecular Hydrogen

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temperatures were -196° , $+20^{\circ}$, or $+300^{\circ}\text{C}$. It was found that the size a of the original iron crystals is constant for every condensation temperature (CT°). The following values are given: Table 1

The surface of the film was volumetrically determined by adsorption of hydrogen or krypton at -196°C , 10^{-2} - 10^{-1} mm Hg.

The catalytic activity was measured with an equivalent mixture of H_2 and D_2 at -196°C and 0.5 mm Hg. In the first experimental series, the following values were obtained for the constant K (g.mole/ cm^2 .sec) according to Table 2. In the second experimental series, the following was obtained (according to Table 3):

$\text{CT}^{\circ}, ^{\circ}\text{C}$	$a, \text{\AA}$	Specific surface m^2/g
-196	60	125
20	300	25
300	4800	1.6

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Specific Catalytic Activity of Iron Films
With Respect to the Reaction of Isotopic
Exchange in Molecular Hydrogen

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Table 2

CT°, °C	K. 10 ¹²	a, Å
+20	2.3-3.3	300
+300	2.1-3.5	4800

Table 3

CT°, °C	K. 10 ¹²	a, Å
-196	23	60
+20	8-13.7	300
+300	24.5	4800

The differences between the values of the two series were explained by insufficient degassing of the iron lamellas in the first series. The authors arrived at the conclusion that the specific activity of iron films remains almost unchanged, although the condensation temperature, the crystal size, and the specific surface were strongly changed. A slight decrease in the activity of films sintered at 300° or 550°C is explained by an increased concentration of impurities on the surface reduced by sintering. Another series of experiments was made with iron which was previously purified by melting it in vacuo. The following result was obtained for a film sintered at 300°C (according to Table 4):

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Specific Catalytic Activity of Iron Films
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$K = (39-48) \cdot 10^{-12}$, and for a film sintered at 550°C , $K = 20 \cdot 10^{-12}$. Thus, the nearly constant activity of such films was proved in spite of the widely different methods of production. There are 4 figures, 4 tables, and 11 references: 6 Soviet, 4 British, and 1 German. ✓

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova
(Physico-chemical Institute ineni L. Ya. Karpov)

SUBMITTED: May 11, 1960

Card 4/4

L 45571-65 EWG(j)/EWA(1)/EWT(m)/EPF(c)/EWP(i)/EPR/T/EWP(t)/EWP(b)/EWA(h) Pz-6/
Pr-4/Ps-4/Psb LJ(c) JD/WH/AT/WH

ACCESSION NR: AR5006382

S/013"/64/000/012/G036/G037

SOURCE: Ref. zh. Metallurgiya, Abs. 12G221

AUTHOR: Aydayenko, M. A.; Bagrov, G. N.

TITLE: Physical and chemical bases for producing pure graphite ⁵⁶₁₀ ²⁷

CITED SOURCE: Sb. Konstrukts. uglegrafit. materialy. No. 1, M., Metallurgiya, 1964, 34-47

TOPIC TAGS: metallurgy, semiconductor, heat resistant material, graphite

TRANSLATION: Pure graphite is necessary for manufacture of debiteuses, heaters, crucibles, screens etc. used in the production of semiconducting materials of high purity. All impurities in graphite can be divided into a few groups, according to the nature of the bond: 1) O₂, H₂Cl₂ and others form a stable covalent bond with the C atom; 2) B and H₂ can replace the C atom at lattice nodes; 3) Fe, Co, Ni, Mn, Cu (and also Li, K and Na) are likely to occur as occluded solid solutions; 4) Ti, Zr, Nb, Ta and U are likely to occur as carbides at high temperatures; 5) Mg, Sn, Zn and Pb in the free state do not form stable bonds with C; 6) chlorides of the

Card 1/3

L 45571-55

ACCESSION NR: AR506382

transition and rare earth metals and chlorides of periodic group III produce occluded molecular compounds. Various methods are used for removal of impurities from graphite. Impurities of the first group are removed at high temperature in a vacuum. O_2 is most completely removed (only at temperatures of 2100° and above). Impurities of the third group can be removed by means of evaporation in a vacuum at high temperature, and also by means of conversion to more volatile compounds (chlorides). For impurities of the fourth group, and also for B_1 , evaporation is less effective, since carbides of these metals are stable compounds, resistant to evaporation. A more effective method is their conversion into volatile compounds (chlorides). Impurities of the fifth group are easily removed by calcining. Molecular compounds of graphite are stable at relatively low temperatures. The most effective method of removal of the majority of impurities from graphite is their conversion into volatile compounds by means of chlorination and fluorination. Chlorides and fluorides of most elements are volatile compounds which can be driven off at high temperatures as a flow of gas. Chlorides of Ca and Mg are an exception. For metals forming stable carbides, chlorination is thermodynamically more advantageous than evaporation in a vacuum. Certain peculiar kinetic properties of the process of removing impurities from graphite are considered. This process consists of diffusion of impurity atoms in the graphite lattice to the pore surface, inter-

Cord 2/3

L 45571-65

ACCESSION NR: AR5006382

action with active reagents (Cl_2 , P_2) at the pore surface and diffusion of reaction products through the pores with removal in gaseous state. It is suggested that the limiting stage at high temperatures (above 2000°) is the transmission of matter in the pores; at low temperatures, diffusion of impurities in the graphite lattice and chemical transformation. Shushlebina.

SUB CODE: 221

ENCL: 00

am
Cord 3/3

USSR/Cultivated Plants - Fruits. Berries.

M-6

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91791

Author : Avdeyenko, N.D.

Inst : Voroshilovgrad Agricultural Institute.

Title : Use of Injection Method to Determine the Need of Fruit Trees for Fertilizers.

Orig Pub : Nauchn. zap. Voroshilovgradsk. s.-kh. in-ta, 1957, 4, No 2, 63-68.

Abstract : The experiments made at the Department of Fruit Growing of the Krasnodar Agricultural Institute (1941-1945) showed that when NPK was injected onto the branches of the second row in the apple tree Simirenko Renet and the London Peppin) they demonstrated the greatest response to the fertilizer. In ten days after the injection of NPK (0.5% area plus 0.5% KH_2PO_4), the NP and NK considerably increased

Card 1/2

USSR/Cultivated Plants - Fruits. Berries.

M-6

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91791

the growth of one year old shoots: the total number of shoots was twice the number of shoots in the control. Injection of P (especially the NPK variant) increased both fruit setting and yield: in the Simirenko Rennet variety the number of settings was increased by 126 and the yield was increased by 195%. -- Ye. T. Zhykovskaya.

Card 2/2

AVDEYENKO, N.I.

AVEDYENKO, NINA IVANOVNA.

N/5
105.2
.A9

Sbornik zadach po sovetskomu grazhdanskomu protsessu
(collection of articles in the soviet civil process, by)
N. I. Avdeyenko, O. N. Stepanova i N. A. Chechina.
Leningrad, Akademkniga, 1954
127 p.
At head of title: Leningrad. Universitet.

AVDEYENKO, V.

They have not reached the limit of their possibilities. Prom.
koop. 14 no.1:21 Ja '60. (MIRA 13:5)

1. Starshiy inzhener proizvodstvenno--tekhnicheskogo otdela
promsoveta, Belgorod.

(Belgorod--Brick industry)

[illegible]

SHTUTMAN, M.N.; AVDEYENKO, V.P.; SHUL'MAN, V.M.; YEREMEYEVA, T.A.

Ejection of matter from an electrode when using a pulsed light source. Izv.vys.ucheb.zav.; fiz. no.2:174-175 '61. (MIRA 14:7)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Electric discharge lighting)

SHTUTMAN, M.N.; AVDEYENKO, V.P.; SHUL'MAN, V.M.; YEREMEYEVA, T.A.

Effect of the quantity of material taken in a sample on the
accuracy of the analysis in a pulse light source. Izv.vys.ucheb.
zav.; fiz. no.3:169-171 '61. (MIRA 14:8)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Spectrum analysis)

AVDEYENKO, V.P.; KOLOSOVA, L.P.; OBORINA, Z.I.; MOISEYEVA, A.G.

Determination of phenols in water from their ultraviolet
absorption spectra. Koks i khim. no.3:49-50 '62. (MIRA 15:3)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Phenols--Spectra.)

USATENKO, Yu.I., doktor.khim.nauk, prof.; SHVAYGER, M.I.; POPOV, V.A.;
AVDEYENKO, V.P.

"Analysis of metallurgical production materials. Determination of
microimpurities" by P.IA.Iakovlev, A.A.Fedorov, N.V.Bulanov. Reviewed
by IU.I.Usatenko and others. Zav.lab. 28 no.7:894-895 '62.
(MIRA 15:6)

1. Magnitogorskiy metallurgicheskiy kombinat (for Shvayger, Popov,
Avdeyenko).

(Metallurgical analysis) (Iakovlev, P.IA.)
(Fedorov, A.A.) (Bulanov, N.V.)

AYDEYENKO, V.P.

PHASE I BOOK EXPLOITATION

SOV/6181

Ural'skoye soveshchaniye po spektroskopii. 3d, Sverdlovsk, 1960. Materialy (Materials of the Third Ural Conference on Spectroscopy) Sverdlovsk, Metallurgizdat, 1962. 197 p. Errata slip inserted. 3000 copies printed.

Sponsoring Agencies: Institut fiziki metallov Akademii nauk SSSR. Komissiya po spektroskopii; and Ural'skiy dom tekhniki VSNTO.

Eds. (Title page): G. P. Skornyakov, A. B. Shayevich, and S. G. Bogomolov; Ed.: Gennadiy Pavlovich Skornyakov; Ed. of Publishing House: M. L. Kryzhova; Tech. Ed.: N. T. Mal'kova.

PURPOSE: The book, a collection of articles, is intended for staff members of spectral analysis laboratories in industry and scientific research organizations, as well as for students of related disciplines and for technologists utilizing analytical results.

Card 1/53

Materials of the Third Ural Conference (Cont.)

SOV/6181

COVERAGE: The collection presents theoretical and practical problems of the application of atomic and molecular spectral analysis in controlling the chemical composition of various materials in ferrous and nonferrous metallurgy, geology, chemical industry, and medicine. The authors express their thanks to G. V. Chentsova for help in preparing the materials for the press. References follow the individual articles.

TABLE OF CONTENTS:

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PART I

Sherstkov, Yu. A., and L. F. Maksimovskiy. Investigation of the dependence of the total intensity of spectral lines on the concentration of elements in an arc-discharge plasma 4

Card 2/33

Materials of the Third Ural Conference (Cont.)

SOV/6181

- Preobrazhenskiy, N. G. New version of the reabsorption method
for measuring absolute atom concentrations in plasma 8
- Prilezhayeva, N. A. Some excitation features of gas mix-
tures in low-pressure discharges 12
- Shtutman, M. N., V. P. Avdeyenko, V. M. Shul'man, and T. A.
Yeremeyeva. Investigation of pulse-discharge features 15
- Zykova, N. M., and G. Ye. Zolotukhin. Effect of the kind
of substance and arc current on the size of cathode and
anode spots 20
- Zolotukhin, G. Ye., N. M. Zykova, and T. A. Kravchenko.
Temperature measurement in the "white spot" region of
metallic electrodes in the current of an ac arc 23

Card 3/3 3

AVDEYENKO, V.P.; KOLSOVA, L.P.; OBORINA, Z.I.; MOISEYEVA, A.G.

Determining pyridine bases in the mother liquor by the ultra-violet absorption spectrum. Koks i khim. no.7:53-54 '63.
(MIRA 16:8)

1. Tsentral'naya zavodskaya laboratoriya Magnitogorskogo metallurgicheskogo kombinata.
(Pyridine bases--Absorption spectra)

SHTUTMAN, M.N.; AVDEYENKO, V.P.; NEUYMIN, Yu.A.; KAS'YANOVA, L.V.; IGNATOVA,
M.V.; PRDENKO, V.A.; BUVALITS, A.I.

Precision and reliability of a DFS-10 quantometer at a metallurgical
plant. Zav. lab. 31 no.2:247-249 '65. (MIRA 18:7)

1. Magnitogorskiy metallurgicheskiy kombinat.

AVDEYENKO, Yu.

First autumn. Starsh.serzh. no.11:8-9 O[i.e. N] '61. (MIRA 152)
(Russia--Army--Military life)

LYSENKO, F.I., polkovnik; ADENIN, A.S., polkovnik; BONDARENKO, V.Ye., polkovnik; ROGACHEV, F.B., polkovnik; RYB'YAKOV, M.M., pod-polkovnik; BELYAKOV, S.A., polkovnik; ISAKOV, P.F., polkovnik; BUHLIYAY, A.A., polkovnik; SAVCHENKO, A.M., polkovnik; IVANOV, M.I., polkovnik; AVDEYENKOV, I.P., polkovnik; ZUBAREV, Ya.G., polkovnik; DIBROVA, I.Z., kapitan 2 rango; TSVETKOV, R.V., general-mayor, red.; BRITVIN, M.I., polkovnik, red.; SHARPILO, P.N., podpolkovnik, red.; MYASNIKOVA, T.F., tekhn.red.

[Party political work in the Soviet Army and the Navy] Partiiino-politicheskaya rabota v Sovetskoi Armii i Voenno-Morskoy Flote. Moskva, Voenizd-vo M-va obor.SSSR, 1960. 284 p.

(MIRA 13:6)

1. Voenno-politicheskaya akademiya imeni V.I.Lenina (for all, except TSvetkov, Britvin, Sharpilo, Myasnikova).

(Russia--Armed forces--Education, Non-military)

AVDEYENKOVA, L.M.; KOROL'KOV, N.V.; ORLOVA, I.A., red.; KORKINA,
A.I., tekhn. red.

[Calculation of magnetic ferrite and diode elements and
analysis of their operation for use in digital computers]
Analiz raboty i raschet magnitnykh ferrit-diodnykh elementov
dlya tsifrovyykh vychislitel'nykh mashin. Moskva, Vychisli-
tel'nyi tsentr AN SSSR, 1962. 209 p. (MIRA 15:10)
(Electronic digital computers--Circuits)
(Electric networks)

AVDEYENKOVA, L.M.; KOROL'KOV, N.V.; ORLOVA, I.A., red.; KORKINA,
A.I., tekhn. red.

[Diodeless magnetic elements using circular cores] Bezdi-
odnye magnitnye elementy na kol'tsevykh serdechnikakh. Mo-
skva, Vychislitel'nyi tsentr AN SSSR, 1963. 72 p.

(Pulse circuits)

(MIRA 16:6)

(Electronic computers--Circuits)

AVDEYENKOVA, L.M.; KOROL'KOV, N.V.; MAKSIMOVA, V.N.; TREFILOV,
V.I.; ORLOVA, I.A., red.; KORKINA, A.I., tekhn. red.

[Large-capacity (permanent) memory devices for digital
computers; some design principles] Dolgovremennye
(postoiannye) zapominaiushchie ustroistva dlia TsVM;
nekotorye printsipy postroeniia. Moskva, VTs AN SSSR,
1963. 53 p. (MIRA 17:1)
(Electronic calculating machines--Memory systems)

AVDEYEV, A., Prepodavatel'

Planar aids in the study of controllers. Prof. tekhn. obr. 22
no. 12:7 D '65 (MIRA 19:1)

1. Professional'no-tekhmicheskoye uchilishche No. 17,
Volgograd.

AVDEYEV, A. A.

"Significance of Indicanemia and Nitremia in Urological Diseases." Cand Med Sci, Central Inst for the Advanced Training of Physicians, Min Health USSR, Moscow, 1954. (KL, No 2, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

AVDEYEV, A.B.; ALEKSANDROV, V.V.

Studying the operative capacity of the 200-20 six-ply truck
tires. Kauch. i rez. 23 no.9:19-22 S '64.

(MIRA 17:11)

1. Dnepropetrovskiy shinnyy zavod.

AVDEYEV, A. D.

"Maska i ee rol' v protsesse vzniknoveniya teatra."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,
Moscow, 3-10 Aug 64.

L 55891-65 EWT(1)/PCC GW

ACCESSION NR: AR6014430

UR/0169/65/000/005/B010/B010
551.508.2

SOURCE: Ref. zh. Geofizika, Abs. 5B81

AUTHOR: Avdeyev, A. I.; Fridzon, M. B.; Kalinin, A. I.

TITLE: Some methods and results of experimental investigations of sensors of meteorological elements

CITED SOURCE: Ref. zh. Geofizika, Abs. 5B81

TOPIC TAGS: meteorological instrument, thermometer design, resistance thermometer, radiation error, atmospheric temperature

TRANSLATION: Platinum resistance thermometers of both framework and openwork types have been developed. The thermometer is designed for balloon sounding of the atmosphere. It is manufactured from platinum wire 0.03-0.05 mm in diameter. The sensing element is attached by a capron filament to a silvered steel frame constructed of wire 2 mm in diameter. Tests have shown that at a height of about 3,000 m the radiation error has a value of about 0.3-0.4°C and the thermal inertia is 0.2 sec. The thermometer readings are recorded by a measuring instrument, the basis of which is a bridge circuit

Card 1/2

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ACCESSION NR: AR5014435

and a highly sensitive oscillograph with photorecording. A step-by-step switch, through a system of relays, ensures the alternate switching of the sensors and the control resistances. The sensitivity of the circuit is 3 μ amps per 1C. The interrogation rate is two sensors per second. The total weight of the measuring apparatus is 3.5 kg.
M. Kaganov

SUB CODE: EE ENCL: 00

Cord 2/2

AVDEYEV, A.I.

Increasing the output of LS-3Sh driers. Tekst.prom. 18 no.10:
43-46 0 '58. (MIRA 11:11)
(Drying apparatus--Textile fabrics)

AVDEYEV, A.I., inzh.; IL'MENSKIY, D.A., inzh.; NOTARIUS, M.D., inzh.

Using asymmetrical bridge circuits in magnetoelectric ratiometers
of resistance thermometers. Priborostroenie no.6:1-3 Je '61.
(MIRA 14:6)

(Bridge circuits)
(Thermometers)

AVDEYEV, A.I.; KALININ, V.N.; FRIDZON, M.V.

Protection of thermoreceivers from the thermal action of solar
radiation when measuring temperature at great heights. Trudy
TSAO no.41:86-90 '62. (MIRA 16:10)

L 55890-65 EWT(1)/EWT(m)/ICC/ENG(v)/EEC-4/EWP(j)/EEC(t)/EWA(h) Pc-4/Pc-4/
Fe-5/Fq-4/Pae-2/Peb/F1-4 RU/GW

ACCESSION NR: AR501443

UR/0169/65/000/005/B010/B010

551.508

SOURCE: Ref. zh. Geofizika, Abs. 5B82

AUTHOR: Avdeyev, A.I.; Prigun, M.B.; Kalinin, V.N.

TITLE: The protection of temperature sensors against radiation

CITED SOURCE: Sb. 150 let Meteorol. observ. Kazansk. un-ta. Kazan', Kazansk. un-t, 1963, 200-212

TOPIC TAGS: meteorological instrument, temperature sensor, stratosphere, anti-radiation coating, radiation error, silver passivation, silver reflectivity, lacquer coating, aluminum reflectivity

TRANSLATION: Silver applied to a polished base has the best reflecting properties of all the coverings used for the protection of stratospheric temperature sensors against radiation. However, silver is unstable under the influence of atmospheric factors. The authors have investigated several methods for maintaining a high reflectivity of silver by its passivation by chromic anhydride and by application of a protective coating. The reflectivity of samples stored for 15 to 20 days in the open air and under room conditions were determined in the wave-length interval 0.2-10 microns. The results of the

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L 55890-65

ACCESSION NR: AR50144/7

15 15 15 3
measurements show that lacquers B-1 and AV-4, as well as silicon dioxide, decrease the reflectivity of silver and cannot be recommended for anti-radiation coatings. Passivation of the silver layer by chromic anhydride and the application of a methacrylic lacquer does not result in a decrease of the reflection coefficient and such processing provides long-term protection of the silver against atmospheric factors. The technical process which has been developed for the processing of the metal parts of the sensors makes possible a considerable reduction of the radiation error in measurements. In addition to the study of silver coatings, an investigation was made of the radiation characteristics of an aluminum layer. Aluminum has an absorption band in the region 0.6-0.9 microns in which about 30% of the solar energy falls. Although aluminum coatings have poorer reflective properties than silver coatings, the cheapness and stability of aluminum make its use highly promising for a number of meteorological instruments used on a large scale. M. Kaganov.

SUB CODE: ES ENCL: 00

CSC
Card 2/2

AVDEYEV, A.L., inzhener.

Continuous beating of cellulose in beaters at the Troitskaia paper mill.
Bum.prom. 29 no.4:24 Ap '54. (MIRA 7:6)
(Wood pulp industry)

AVDEYEV, A.I.

Modernisation of hydration beaters. Bum.prom. 30 no.3:20-21 Mr '55.
(MIRA 8:4)

1. Glavnyy inzhener bumashnoy fabriki "Spartak".
(Papermaking machinery)

AVDEYEV, A.L.

Some inexactitudes in methodological directives. Bum.prom. 31 no.8:
32 Ag '56. (MIRA 9:10)

1.Glavnyy inzhener bumazhney fabriki."Spartak."
(Papermaking machinery)

AVDEYEV, A.L.

Remodeling the stock preparation section. Bum. prom. 34
no.4:14-15 Ap '59. (MIRA 12:7)

1. Glavnyy inzhener bumazhnoy fabriki "Profintern."
(Industry--Equipment and supplies)
(Paper)

ZUBAREV, L.V.; MARUNICH, I.P.; AVDEYEV, A.M.

Experience in using automatic levels in railroad surveying.
Transp. stroi. 5 no.9:15-16 N '55. (MIRA 9:2)

1.Nachal'niki issledatel'skikh partii Messhelderproyektov.
(Railroads--Surveying)

AVDEYEV, A.L.

Thickening of paper stock and retrieval of fibers on inclined
screens. Bum. prom. 38 no.11:24 N '63. (MIRA 17:1)

1. Glavnyy inzh. bumazhnoy fabriki "Profintern."

COMMON ELEMENTS										PROCESSES AND PROPERTIES INDEX										1ST AND 2ND SERIES										3RD AND 4TH SERIES																																																																																																																																																																																																																																					
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Hence, to facilitate absorption process and to reach sufficiently high concns. of NH_3 in factory column it is necessary to increase the quantity of CO_2 introduced with NH_3 into the absorber and thereby to lower the partial pressure of NH_3 . The influence of temp. on the speed of CO_2 absorption by the salt- NH_3 soln. from 30 to 70° is usually insignificant. The favorable influence of a higher NH_3 concn. in the soln. on the speed of CO_2 absorption is very considerable. To increase the efficiency of the CO_2 -absorbing app. it is necessary to use high NH_3 concns. A new scheme of rational absorption installation is proposed, based on the above exptl. data, which should produce salt solns. with high NH_3 and CO_2 concns.

BERNARD NELSON

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
HYDEYEV, A. V. CA PROCESS AND PROPERTIES INDEX 18 Catalysts for the removal of organic sulfur from gases <u>A. V. Andreyev</u>, Russ. 62,343, Dec. 31, 1937. The catalyst is prepd. from a mixt. of slag cement with ferrous hauxite and the addn. of small amts. of powd. metallic Al, which produces pore-forming H₂.																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																			
SEARCHED BY										REVIEWED BY									
INDEXED BY										FILED BY									

HUSEYEV, A. V.		PROCESSES AND PROPERTIES INDEX	
CA		19	
Continuous process for the production of porcelain insulators. A. V. Huseyev and B. M. Lagov'er. <i>Vestnik</i> <i>Elektrosvyaz</i>, IV, No. 3, 33-3 (1940). -- A conveyor method is outlined. M. Huseh			
ASB-USA. METALLURGICAL LITERATURE CLASSIFICATION		DATE OF ENTRY	
EDSON SYSTEM		EDSON NO. MAP ONLY SET	
EDSON NO. MAP ONLY SET		EDSON NO. MAP ONLY SET	

SOV/112-57-5-9747

.8 (0)

Translation from: Referativnyy zhurnal. Elektrotehnika, 1957, Nr 5, p 13 (USSR)

AUTHOR: Avdeyev, A. V., Strusinskaya, N. Ya., Bogolepov, A. D.

TITLE: Use of Lower-Moisture-Content Masses in Manufacture of High-Voltage Porcelain Insulators (Ispol'zovaniye mass ponizhennoy vlazhnosti v proizvodstve vysokovol'tnykh farforovykh izolyatorov)

PERIODICAL: Tr. Gos. issled. elektrokeram. in-ta, 1956, Nr 1, pp 17-25

ABSTRACT: High-voltage insulators are usually formed from machine-turned billets, which are produced by extruding a porcelain mass with 21-22% moisture content from a vacuum press, and subsequently air-drying the billets down to a 17.5-18.5% moisture content. Natural air-drying of billets takes considerable time; rapid artificial air-drying requires specialized equipment. As a result of investigations conducted at CHEKI, a possibility of manufacturing insulators from masses with a lower (18.0-18.5%) moisture content was proved, and air-drying of insulator billets was eliminated. A number of problems had to be solved; a uniform-moisture-content porcelain mass had to

Card 1/3

SOV/112-57-5-9747

Use of Lower-Moisture-Content Masses in Manufacture of High-Voltage

be produced by filter-presses; vacuum presses had to be modernized. The investigations have shown that with an increase in the filter-pressing time, the moisture content of the mass pancake decreases to a definite limit; increase in the pancake thickness from 15 mm to 35 mm did not materially affect its moisture content. Dross heating tends to accelerate filter-pressing, but has no influence on the final moisture content of the pancake. At the factory, filter-pressing (dehydration) of the porcelain mass down to 18% moisture content was formerly done at 15 atm pressure and 40°C dross temperature. To protect filter-press cloth, perforated disks were placed on the shields, and rubber gasket rings were placed around their circumference. A crankshaft-type vacuum press was used for extruding billets from the mass with moisture content of 18.0-18.5%; the press functioning was unstable. To ensure its normal operation, the vacuum press was modernized by substituting a continuous screw conveyer for an intermittent-type conveyer and by mounting a feed roll in the receiving box. To reduce the mass-passage resistance, the

Card 2/3

AVDEYEV, A.V.; TAKHER, Ye.A.

Removing the binding from ceramic semiproducts prepared by casting
thermoplastic slips without mineral fillings. Trudy GIEKI no.2:66-71
'57. (MIRA 11:7)

(Ceramic materials)

EMINOV, Ye.A.; OSEHER, R.N.; PATSUKOV, I.P.; CHEKAVTSEV, N.A.; MAZYRIN, I.V.;
FUKS, G.I.; VLADZIIYEVSKIY, A.P.; PATSUKOV, I.P.; AVDEYEV, A.V.;
LOPOYAN, G.S.; PETROV, G.G.; KOZOREZOVA, A.A.; LISITSKIY, K.Z.;
YAKOBI, M.A.; BELYANCHIKOV, G.P.; IVANOV, V.S.; VORONOV, N.M.; RU-
MYANTSEV, V.A.; ZILLER, G.K.; BEREZHINAYA, V.D.; LEVINA, Ye.S.,
vedushchiy red.; TROFIMOV, A.V., tekhn.red.

[Manual on the uses and consumption standards of lubricants] Spra-
vochnik po primeneniyu i normam raskhoda smazochnykh materialov.
Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry,
1960. 703 p. (MIRA 13:4)
(Lubrication and lubricants)

S/081/63/000/004/023/051
B187/B208

AUTHORS: Avdeyev, A. V., Takher, Ye. A.

TITLE: On the problem of removing the binder from semifinished ceramics obtained by casting from thermoplastic slip

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1963, 429 -430, abstract 4M27 (Tr. Gos. issled. elektrokerm. in-ta, no. 4, 1960, 86 - 92)

TEXT: In semifinished goods with a height < 150 mm and a wall thickness < 10 mm, the maximum ratio of height to diameter being 2:1, the binder can be removed by using paraffin with a 10 % admixture of oils as a binding agent in the casting of electrical ceramic slips, without using any mineral additive. The specimens have to be placed on bases with a high absorptivity. The thermal treatment of the semifinished specimen must guarantee a maximum removal of the binder by exudation; the best results in this respect were obtained by the addition of 10 % spindle oil to the paraffin. The addition of mineral oils to paraffin reduces the temperature of exudation of the product by about 4°C . As the addition of spindle oil to the paraffin may cause some thickening of the slip, only specimens with Card 1/2

On the problem of removing the ...

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B187/B208

a wall thickness $\geq$ 5 mm can be cast from it if the total content of
binder is 10 %. [Abstracter's note: Complete translation.]

Card 2/2

AVDEYEV, A.V.; ZEYLIK, B.S.

Formation of the granite massifs of the Ora-Tau and Kyzyl-Tau
in central Kazakhstan. Trudy VSEGEI 74:171-181 '62.
(MIRA 15:9)

(Kazakhstan--Granite)

— AVDEYEV, A.V.

Ring structures of igneous rock complexes. Sov.geol. 8 no.10:50-66
O '65. (MIRA 18:12)

1. TSentral'no-Kazakhstanskoye geologicheskoye upravleniye.

⁴
AVDEEV, B.A.

Tekhnika opredeleniia mekhanicheskikh svoistv metallov. Moskva, Metallurgizdat, 1949. 332 p. illus.

Bibliography: p. (331)-332.

Technique of determining the mechanical properties of metals.

DLC: TA460.A9

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

1. AVDEYEV, B. A.
2. USSR (600)
4. Technology
7. Technique of determining the mechanical properties of metals. 2-izd.
Moskva, Mashgiz, 1952
9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

AVDEYEV, B.A.

Modern Home-Produced Machines and Instruments for Mechanical Tests. B. A. Avdeyev. (Zavodskaya Laboratoriya, 1965, 31, [3], 375-380; in Russian). This is a review, with several tables of characteristics, of testing machines and instruments designed and produced in the U.S.S.R., and some which are to be produced shortly. These include double-action hydraulic pulsating machines up to 800 ± 400 t., horizontal universal machines up to 100 t., hydraulic testing presses up to 600 t., as well as various fatigue testing machines. --S. K.

V.M.H. 850

~~AYDEYEV~~, B.A., BALASHOV, B.F., kandidat tekhnicheskikh nauk, retsenzent;
KHARITONOV, I.I., inzhener, retsenzent; BORISOV, S.V., inzhener,
redaktor; MOHEL', B.I., tekhnicheskiiy redaktor.

[Testing machines and instruments] Ispytatel'nye mashiny i pribory.
Moskva, Gos.nauchno-tekhn.isd-vo mashinostroit.lit-ry, 1957. 350 p.
(MLRA 10:4)

(Testing machines)

AUTHOR: Avdeyev, B.A.

32-12-46/71

TITLE: The New Hydraulic Presses for the Testing of Building Materials
(Novyye gidravlicheskiye pressy dlya ispytaniya stroymaterialov).

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1507-1508 (USSR)

ABSTRACT: Between 1955 and 1956 the Armavir works, where testing machines are constructed, introduced the production of new hydraulic presses for pressure loads of from 10-1000 t. They are provided with pendulum dynamometers, and in their measuring results a maximum error of 1% is found. The same plant has now begun producing simple and inexpensive presses of the type "2ПГ", which are intended to be used for the controlling of material and construction. In this paper the press type "2ПГ" is shown in form of a schematic drawing. The press has a self-stabilizing hydraulic couple which is destined for a maximum oil pressure of 360 atm. excess pressure. Various varieties of this type "2ПГ-250" and "2ПГ-10" have different devices for adjustment. For measuring pressure load each of these presses is provided with a system of 3 manometers for different degrees of pressure load. The hydraulic pump of each of these presses is driven by an asynchronous electric motor "H-400". In the case of a

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Testing of Building Materials

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sudden change of pressure (if the sample is destroyed) the highest manometer reading can be fixed. The construction of these presses is arranged in such a manner that the manometer system may be replaced by a simplified pendulum dynamometer. There are 2 figures and 1 table.

AVAILABLE: Library of Congress

Card 2/2 1. Presses-Hydraulic 2. Materials-Testing equipment

AUTHOR:

Avdeyev, B.A.

Dement'yev, Kh.N., Candidate of Technical Sciences

32-12-70/71

TITLE:

B.A. Avdeyev. Testing Machines and Testing Apparatus
(B.A. Avdeyev. Ispytatel'nyye mashiny i pribory).

PERIODICAL:

Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1525-1525 (USSR)

ABSTRACT:

The author reviews the above mentioned textbook, which was already admitted for use by the Ministry for Apparatus Construction and Means of Automation. The textbook contains 12 chapters dealing with various testing machines and testing apparatus as well as with the respective theoretical instruction. The author subjects the new textbook to a sharp criticism and mentions several examples to show that the book contains wrong conceptions, faulty descriptions of the schematical illustrations of machines and apparatus, etc. Besides, the author maintains that the author has included antiquated material which must be described as obsolete and no longer valid, but that he neglected mentioning the latest achievements in the respective fields. In conclusion the author states that the textbook under discussion must by all means be thoroughly revised in order to make it fit for being used.

AVAILABLE:

Card 1/1

Library of Congress

1. Books-Review 2. Quality control 3. Machines-Testing

Avdeyev B. 17

PHASE I BOOK EXPLOITATION

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Avdeyev, B. A.

Tekhnika opredeleniya mekhanicheskikh svoystv materialov (Methods of Determining Mechanical Properties of Materials) 3rd ed., rev. and enl. Moscow, Mashgiz, 1958. 474 p. 7,500 copies printed.

Reviewer: Rymar', N.F., Engineer; Ed.: Arapov, P. P., Engineer; Scientific Ed. of Publishing House: Kochetova, G. F.; Tech. Ed.: Uvarova, A. F.; Managing Ed. for literature on machine building and instrument construction (Mashgiz): Pokrovskiy, N. V., Engineer.

PURPOSE: This book is recommended for technicians engaged in testing materials and inspecting testing equipment. It may also be used as a textbook in technical institutes and for courses dealing with testing of materials.

COVERAGE: This is the third and expanded edition of a book published originally in 1952. The author deals with testing of various materials for mechanical properties. Testing machines and measuring instruments are described and illustrated. There are detailed instructions for checking, calibrating, and setting up testing machines for standard tests. The testing procedures described are in accordance with Soviet government specifications. No personalities are

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mentioned. There are 35 Soviet references.

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